

Fishery Plan for Sinah Lake, Hayling Island



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Description of water

Sinah lake is a gravel pit of about 15 acres and is managed as a mixed fishery, which also holds specimen carp, bream and tench. However, it also has a head of other species such as perch, roach, and rudd making it a good all round water for pleasure anglers and specimen anglers alike.

Sinah Lake has a SSSI status and is owned by Hayling Golf Club, who use it for irrigation of their greens and course. This use can affect the water levels greatly in times of drought and hot weather, and often the gravel bars are visible when the water level drops. This varying water level can be a concern with regards to fish welfare and needs to be carefully monitored.

The lake is served with two car parks for members use, which are protected by PDAS locks. Height barriers also control the vehicles that can enter the car park on the North bank.

There is an out of bounds area in front of the Golf Club where no member can fish and this is enforced by the Club officials.

There is a secure compound on site on the North bank where tools, boats and timber etc is stored.

A stock pond exists in the NE corner, although it is of limited use currently.

This waters lease is the Clubs most expensive and to this end, a rod supplement is in force where the member has to pay for the use of additional rods. Basic membership allows the use of one rod.

Stocking Levels

The stocking levels have been assessed by records of recent stockings, and the catch rates of the members fishing the lake. This is especially so with the carp stocks as many regulars maintain a well-documented record of fish captures.

The original stocking of carp were from the Burton Bradstock strain back in the early 70's, but sadly the numbers of these superb fish have now declined. They were a particularly large and pretty strain of king carp, and are much sought after by specimen carp anglers.

In 2009, the Club has made a stocking of around 42 king carp of 2kg in weight from the Fishers Pond strain. Many of these carp have grown on well to over 30lb.

In 2011/2, 31 carp, hand selected the year before, were introduced from Lower Berryfield. 15 were small doubles on introduction, the rest of the C4s were in the range 5-9lb. These are sought after fish for their appearance however they have struggled to fill out and grow. Anglers like to catch them but they are not large fish yet.

Due to the nature of this type of gravel pit, survival of carp spawn and fry is very poor and this leads to a minimal or zero annual recruitment into the population. There are very occasional recruitments of carp however we are always likely to need to stock nice fish rather than grow them 'in-house'. Currently there are an estimated 120 -140 carp in the water.

The tench run into double figures, with some females achieving 14lb, and it also boasts some large male fish over 6lb. The tench are self-sufficient, and 23 tench ranging from 2-6lb have been relocated.

The bream have achieved weights of around 14lb. The last stocking was 650 bream in 2011. The bream are settled and smaller fish are thinned. Over 100 fish upto 5lb have been relocated in the last 4 years.

The silver fish stocks have expanded over the last 5 years with some substantial recruitment. The medium sized fish , and more recently the smaller fish, are regularly thinned with over 2000 3oz plus fish being moved and well over 3000 smaller fish. This is all in the last 4 years.

Pike and perch predate the water and both of these species have grown to specimen size in the distant past, but seem to be short of specimen status in recent years. The pike very rarely reach 20lb in weight although there are large numbers of jack pike in single figures.

A programme to re-establish the perch was started in 2011 and concluded last year. A regular stocking of 6-10" fish has been made with a total of over 400 fish being introduced.

Current Status

Sinah Lake is one of the Clubs better mixed fisheries, and it is also known for the quality of the carp, bream and tench fishing. Indeed the water has also been fished by members of the tenchfishers group who specialise in large specimen tench. The location is useful to the club offering fishing in an area where we have little else.

Over the last 5 years, the water has fished more predominately for the large specimen carp that reside in the water. The pleasure anglers have enjoyed some bumper summers with bream, roach and rudd particularly in the years 2013, 2014 and 2015. 2016 saw a drop off in pleasure angler's

weights and match weights. The pike anglers have continued to enjoy their winter sport.

There are currently 33 swims, they are now more spaced out to minimise conflict when anglers are fishing 3 rods. Most swims are constructed with sleepers and are backfilled with the



surrounding gravel. In addition to the 33 swims, there is 'Tates' which can provide fishing for a number of float anglers. In 2013/4, the extremely high water levels and the extreme wind action caused large scale flooding and erosion (see pics above). The majority of this has now been repaired. Many swims have 2 levels to allow for safe fishing from both summer and winter water levels

The water level can vary dramatically with the weather and the golf course irrigation, and at times the level can drop to a level which may give concern to fish welfare. Many of the bars can be seen during this time, leaving the lake difficult and sometimes impossible to fish as it means dragging fish over the bars. In these cases, swims are closed to prevent damage to fish. In the past few years, the level of silt has become more of a concern as it further reduces the depths in the deeper bars.

The weed growth also fluctuates from year to year. This is likely to be mostly driven by weather conditions and hasn't been a major problem.

The water quality in the past has been excellent and the water can be rich in natural food, especially when the weed is in full growth in the summer. However, the lake is becoming more eutrophic with the silt build up and the increased biomass, which in turn increases the potential for DO problems during the high risks times.

Cormorant predation is still present on the water however the deterrent actions have reduced the levels. These should continue.

The fish health checks carried out over the past 5 years have shown no indication of any problems, with only minor 'usual' parasites present.

Identified Problems

The following problems exist on the water:

- The largest problem currently is the risk of major de-oxygenation (eutrophication). This would lead to fish distress and deaths plus extended periods of poor angling.
- Varying and sometimes dangerous water levels. When the levels are low, this leads to periods of time when swims are closed to PDAS members. An extreme drought would lead to the whole water being closed. When the levels are high, it leads to flooded swims and erosion.
- Natural predation is not currently controlling the numbers of very small fish effectively. A programme for reintroducing perch has just been concluded so we will monitor what happens over the coming years.

- The bottom feeding fish stocks need to be more balanced especially if we want to start a regular programme of introducing a small number of quality fish every 4 years.
- The stock pond is not effective and could be used for other purposes. The fence in that area has been broken down a few times so poachers can get access.
- There has been some conflict between anglers using the area known as 'Tates'. This is particularly at night.
- Some members have been abusing the supplement scheme. A member has been banned for a number of years following one situation.

Long Term Plan

The long-term plan for Sinah Lake is to continue to maintain it as a mixed fishery, and also to retain the specimen fishing for the carp, bream and tench. It should also provide reasonable pike fishing opportunities.

This will require future stocking of quality carp. (the club currently favours VS fisheries so this is likely to be the prime source). It is recommended that in the next 5 years, there are 2 stockings of 15 C4 fish, in 2018 and 2022. Total weight of each stocking is about 200lb, and we should look to remove at least 200lb of bottom feeders prior to their introduction in each case. This would be made up of some Fishers pond and Lower Berryfield carp which are slow growing/unattractive plus bream/tench upto 5lb in size.

No other stocking is required; however we will continue to monitor the success of the perch programme. If, by 2019, this has proved partly successful we may choose to put another 100-200 fish in.

Action is required to minimise the risk of a eutrophication event. These approaches will also improve fish growth rates and anglers catches. The approaches are:

1. Continue to manage the biomass. The water ecosystem will balance over a long period however we need to cope with seasonal fluctuations. We should continue to remove bottom feeding fish (upto 4lb) and silver fish (upto 6oz) each year. It is expected predation will help with very small fish control. We should also thin the small jack pike.
2. Increase the depth of the water. This will provide more capacity to cope with problems. We need to remove silt to achieve this.
3. Reduce the nutrient in the water. Again the removal of silt will be our best method of achieving this.
4. Provide artificial oxygenation for 'high risk' times. The introduction of aerators (working from say 3am to 9am) would provide some headroom for the fish to survive the worst de-oxygenation periods.

Desilting is not an easy option. The SSSI status makes getting permissions difficult and approaches to English Nature have not been favourable. Appendix 1 looks at the current approaches for desilting which have been discussed with them.

The stock pond may play a role in desilting (even if it is just to provide a location for some of the silt which is close to that area). If not, we should look to remove the fish and fill the area in.

Monitor the water rules for use of Tates and make sure it stops conflict between anglers particularly at night. (note: rules have been clarified for the 2017 season to ensure only day float fishing is carried out)

Requirements for successful instigation of plan

- Stocking of 15 C4 quality carp in 2018 and 2022.
- Continued programme of fish removals. This can be via nettings or fish outs. We need to ensure the quality silver fish particularly roach continue to thrive.
- Carry out a silt assessment, map out the deeper areas and get a silt analysis done for each of the areas.
- Desilting programme agreed. This need English nature approval and Golf Club support. Meetings need to be held to look at the problem and decide a way forward.
- Once desilting is resolved, decide on actions for the stock ponds providing necessary plant/materials.
- Continue the programme for deterring cormorants on the water.
- Consider opening up a couple of closed off swims so that they can be used for close in fishing.
- Ensure only float fishing in the day off Tates.

Conclusion

Overall, Sinah Lake is a well-run venue in a good location. However the water quality is slowly deteriorating which is putting the water at risk particularly in extreme conditions.

Actions are going to be expensive and hard work, however the benefits will be immense and the water can safely provide excellent fishing for the specimen hunter, pleasure angler and match fishermen alike.

Appendix 1 : Sinah Lake Desilting

Introduction

Sinah Warren Lake was created during the 1930's as gravel was excavated from the south western corner of Hayling Island. The gravel was needed for two main reasons, firstly for the construction of floating concrete barges used in the Allied war effort in Europe and secondly to enable the construction of gun emplacements that formed part of the Langston Harbour and Hayling Island defences.

As gravel was removed from below the water table at the site the pit would have become inundated. This will have required extraction of gravel to have taken place beneath the water surface. In turn this led to the creation of a classic wet dug gravel pit. The bottom of the lake is best described as an "egg box", with long series of shallow bars, gravel plateaus, humps and deep channels. The final excavation reached approximately fifteen acres in size and has depths ranging from a few centimetres down to five metres.

Sinah Warren Lake is owned by Hayling Golf Club and has been leased/managed as a fishery by Portsmouth and District Angling Society for over 50 years. The angling society has stocked many fish over its tenure including much sought after (and expensive) special breeds of carp. The value of the fish in the lake is estimated to be many many hundreds of thousands of pounds. The lake also recruits large numbers of silver fish (roach, rudd) plus at times, smaller numbers of perch, bream, pike and tench, and very occasionally carp. This means the lake retains a high biomass.

The Golf Club use the lake for irrigation. This means the water level can vary dramatically, and at times the level can drop to a level which may give concern to fish welfare. Many of the bars can be seen during this time. Water is extracted under licence from the EA and there is a defined marker which is used to help prevent excess irrigation taking place.

*The lake is located inside and at the boundary of a SSSI (referred to as Sinah Common), see Figure 1. This came into force in 2000. It is understood that The SSSI citation for mineral workings is for sea rush (*Juncus maritimus*), sea club-rush (*Bolboschoenus maritimus*), saltmarsh rush (*Juncus gerardii*), sea milkwort (*Glaux maritima*), sea aster (*Aster tripolium*), marsh pennywort (*Hydrocotyle vulgaris*), southern marsh-orchid (*Dactylorhiza praetermissa*), royal fern (*Osmunda regalis*), stiff saltmarsh-grass (*Puccinellia rupestris*) and dotted sedge (*Carex punctata*). However the **actual lake** is only cited for rigid hornwort *Ceratophyllum demersum*, a locally scarce species in Hampshire, and the nationally rare charophyte *Chara baltica* has been recorded.*

The Problem

*Over time, the lake has had a steady build of primarily organic silt. This has been as a result of water weed dying back within the lake, and leaf litter from outside and around the lake. The silt, by nature of the geography and currents, has deposited in the channels/gullies. This has reduced the **depth** of the water and the **volume** of water in the lake*

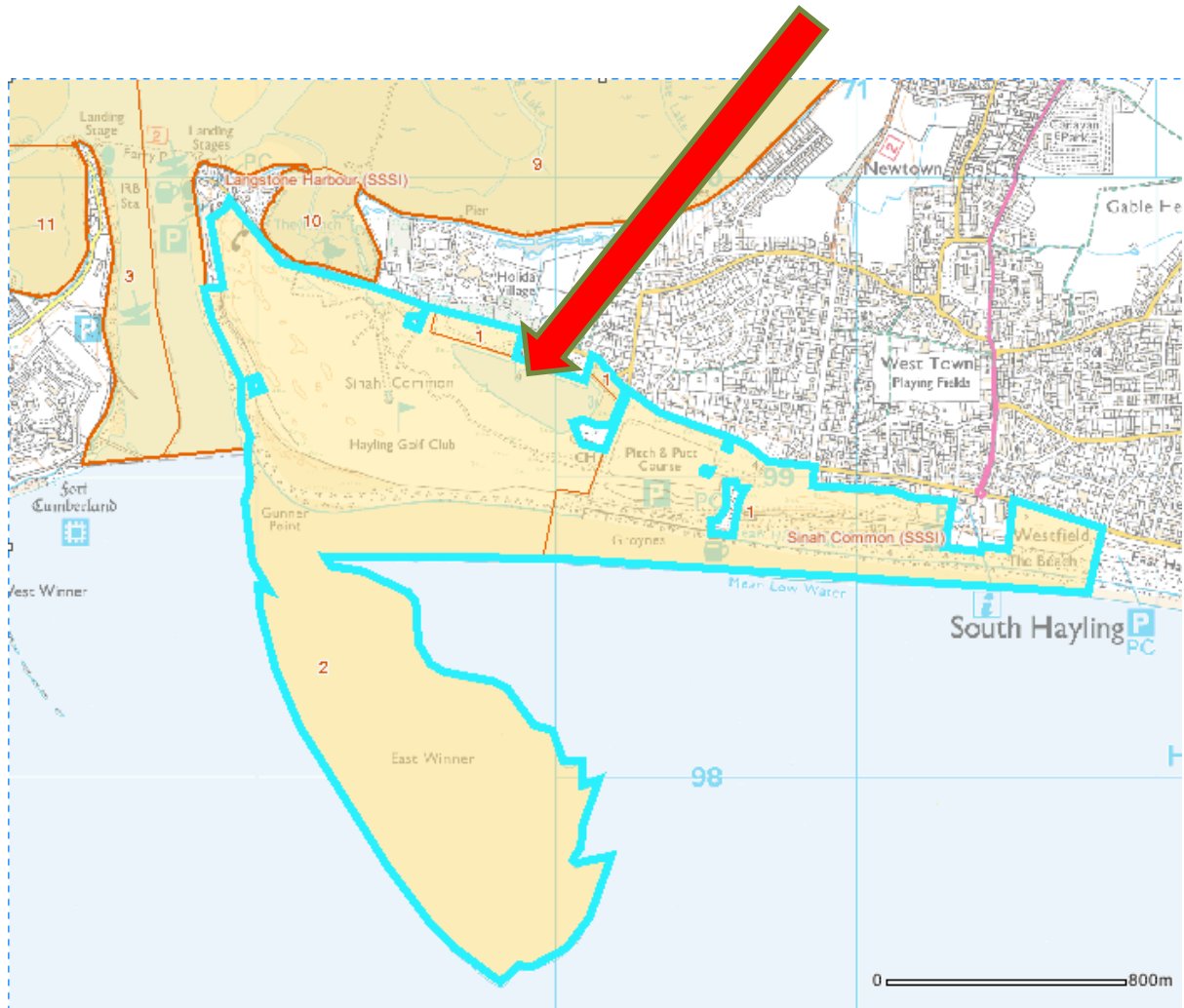


Figure 1 : SSSI Boundary of Sinah Common: Lake indicated by red arrow

The level of irrigation remains the same each year, but the silt has meant that each year there is less water left for the fish to live in. The water quality and oxygenation are significantly impacted. The problem gets worse every year making the risk of a problem become more and more likely.

The fishing club has taken steps to reduce and balance the biomass in the lake. Each year significant numbers of smaller fish are removed, and the club has invested in a regular purchase of perch (a predatory fish) to help manage the young fish. This is only seen as a risk reduction exercise and won't prevent a serious problem.

Therefore the amount of silt needs to be reduced significantly to eradicate the risk to fish stock, it is felt that severe mortalities will occur if the wrong conditions are experienced. Prior to a more complete silt survey being carried out, initial estimates are that 100 cubic metres of silt should be targeted.

Possible Solutions

- **Approach 1 - Introduce natural products to encourage dissipation of the unwanted organic material**

Method

Apply siltex (a highly porous form of powdered chalk) evenly to the lake from a boat. This is a proven method which can be carried out in stages over a period of years.

Advantages

Uses natural processes and stimulates micro organisms

Works on all silt in lake

Increases oxygenation and water clarity

Harmless to plants

Control the increasing lake acidity

Harmless to all wildlife

Reasonably cost effective (cost can be spread over a longer period)

Disadvantages

Natural England procedures and guidance suggest siltex is at risk of having an adverse effect on the features of the SSSI. In discussion, it seems that this is to do with the potential reduction in acidity (note : however to date I can find no evidence that siltex has ever effected plants and the siltex can be applied in stages making any changes minimal...I am not sure where the SSSI protected plants are in relation to the lake but they are not in the direct vicinity ..also many of the listed items on the 'SSSI Operations which are likely to impact ' have taken place on the site)

- **Approach 2 – Pump the silt from the main lake to an area adjoining the lake**

Method

Create a bunded area (geotextile dam or similar) and use silt pumps to move the silt from the main lake to behind the bund. The proposed area is shown in Figure 2. There is currently a 'stock pond' area in the lake shown by the red arrow. This could be cleared out (it contains some fish currently) and a geotextile dam would be created (shown by red line). Pump and pipes are hired and can be very effective but they are very cumbersome to move. The club have some limited experience of this approach.



Figure 2 : Position of banded silt

Advantages

No need to move silt off site.

Increases oxygenation and water clarity (long term)

Harmless to most plants (except those which are in the banded area)

Mainly harmless to wildlife (fish safe pumps used)

Controllable cost (has to be done in one focussed period)

Acceptable to Natural England (to be confirmed)

Disadvantages

Man power intensive

Restricted by length and weight of pipes , power of pumps

Short term impact on water clarity

Only tackles silt which can be reached

Loss of some surface area of lake

Access tricky

• Approach 3 – remove the silt from the site

Method

Pump the silt into geotextile bags to enable run down, and then transport bags off site.

Advantages

Increases oxygenation and water clarity (long term)

Harmless to most plants

Mainly harmless to wildlife (fish safe pumps used)

Acceptable to Natural England (to be confirmed)

Disadvantages

Costs are beyond the club

Need approvals, silt surveys etc

Same disadvantages as Approach 2 except for the loss of surface area of lake.